

Serial No. **10/717,966**
Amdt. dated August 11, 2006
Reply to Office Action of May 17, 2006

Docket No. **K-0552**

REMARKS/ARGUMENTS

Claims 1-27 are pending in this application. By this Amendment, the drawings, Abstract, specification, and claims 1-20 are amended, and claims 21-27 are added. Support for the claims can be found throughout the specification, including the original claims and the drawings. Withdrawal of the rejections in view of the above amendments and the following remarks is respectfully requested.

I. Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 1-10 and 20 under 35 U.S.C. §112, second paragraph, as allegedly indefinite. It is respectfully submitted that the amendments to claims 1-10 and 20 are responsive to the Examiner's comments and that claims 1-10 and 20 meet the requirements of 35 U.S.C. §112, second paragraph. Accordingly, the rejection should be withdrawn.

II. Rejection Under 35 U.S.C. §102(b)

The Office Action rejects claims 1-5, 9, 11-15 and 19 under 35 U.S.C. §102(b) over U.S. Patent No. 4,835,991 to Knoop et al. (hereinafter "Knoop"). The rejection is respectfully traversed.

Independent claim 1 is directed to a washing machine, comprising *inter alia*, a fluid level sensing apparatus which comprises an air chamber configured to be installed in communication with the tub, wherein the air chamber is configured to store a predetermined amount of air such that a pressure of the washing fluid held in the tub imposes a corresponding pressure on the

stored air, a tube configured to be installed in communication with the air chamber, a sensor coupled to the tube and configured to sense a washing fluid level by sensing an air pressure in the tube, and a protecting member configured to prevent disassembly or breakage of the air chamber and the tube. Independent claim 12 recites similar features in varying scope. Knoop neither discloses nor suggests at least such features, or the respective claimed combinations of features.

Knoop discloses a top loading agitator type washing machine 10, with a basket 16 and an agitator 18 concentrically disposed in a tub 14. A water supply 19 supplies clean water to the tub 14, and a water level is monitored by a pressure sensor 44. Once the appropriate water level is achieved, a washing cycle is initiated, and rotational movement of the tub 14 is monitored to maintain a maximum rollover rate of the clothing in the tub 14.

The pressure sensor 44 includes a first chamber 50 attached to an outer surface of the tub 14, and a separate second chamber 52 connected to the first chamber 50 by a conduit 54. The first chamber 50, which acts as a reservoir, has two slits 56 which are positioned so that the first chamber 50 may be completely filled during a wash cycle, and so that both the first and second chambers 50, 52 may be completely drained upon completion. The second chamber 52 is elevated with respect to the first chamber 50, and is connected to an electronic pressure transducer 64 by a conduit 62. As the tub 14 fills, the first chamber 50 fills and overflows into the conduit 54 to partially fill the second chamber 52, causing increased pressure in air trapped in

the second chamber 52 and the conduit 62. This pressure is detected by a transducer 64, which signals a microprocessor 68 to initiate a wash cycle.

The pressure sensor 44 is also used to monitor rotational movement of the tub 14 during the wash cycle so as to maintain maximum rollover of the clothing in the tub 14. As the tub 14 oscillates, water in the conduit 54, and specifically, the water in a horizontal component 54A of the conduit 54, also oscillates, causing an oscillating signal to be sent from the transducer 64 to the microprocessor 68. This oscillating signal is used by the microprocessor to compare the actual amount of water in the tub 14 to predetermined amounts required to maximize rollover, and to add water as appropriate throughout the wash cycle (see column 4, lines 38-58 of Knoop).

It appears that the Examiner has drawn a comparison between the second chamber 52 disclosed by Knoop and the air chamber recited in independent claims 1 and 12, between the conduit 62 disclosed by Knoop and the tube recited in independent claims 1 and 12, between the transducer 64 and microprocessor 68 disclosed by Knoop and the sensor recited in independent claims 1 and 12, and between the first chamber 50 disclosed by Knoop and the protecting member recited in independent claims 1 and 12. However, if this basis for comparison is applied, then Knoop clearly neither discloses nor suggests a protecting member as recited in independent claims 1 and 12.

More specifically, the protecting member recited in independent claims 1 and 12 is

configured to prevent disassembly or breakage of the air chamber and the tube. However, the first chamber 50 is simply a holding tank or reservoir which directs water towards or away from the second chamber 52 based on a water level and/or oscillatory movement of the tub 14. The connection of the second chamber 52 and the conduit 62 to the tub 14 provided via the first chamber's 50 fixed connection thereto is merely to provide a path for the flow of water therethrough so that pressure can be monitored as described above. The first chamber 50 and its connection to the tub 14 provide no protection to the second chamber 52 and/or the conduit against disassembly or breakage.

Rather, it appears based on the diagrammatic representation of these components in Figures 1-3 of Knoop, that the fixed attachment of the first chamber 50 to the tub 14 on one side and the conduit 54, second chamber 52 and conduit 62 on its other side would be more likely to cause damage or disassembly of these components as the tub 14 oscillates and/or the tub 14/machine 10 vibrates during operation, similar to that which is set forth in paragraph 4 of the present application. Thus, it appears that Knoop's washing machine 10 would exhibit similar problems to those set forth with the prior art. Accordingly, it is respectfully submitted that Knoop neither discloses nor suggests a protecting member as recited in independent claims 1 and 12.

For at least these reasons, it is respectfully submitted that independent claims 1 and 12 are not anticipated by Knoop, and thus the rejection of independent claims 1 and 12 under 35

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U.S.C. §102(b) over Knoop should be withdrawn. Dependent claims 2-5, 9, 11, 13-15 and 19 are allowable at least for the reasons set forth above with respect to independent claims 1 and 12, from which they respectively depend, as well as for their added features.

III. Rejections Under 35 U.S.C. §103(a)

The Office Action rejects claims 6-8 and 16-18 under 35 U.S.C. §103(a) over Knoop. The Office Action also rejects claims 10 and 20 under 35 U.S.C. §103(a) over Knoop in view of U.S. Patent No. 6,447,017 to Gilbreath (hereinafter "Gilbreath"). These rejections are respectfully traversed.

Dependent claims 6-8, 10, 16-18 and 20 are allowable over Knoop at least for the reasons set forth above with respect to independent claims 1 and 12, from which they respectively depend, as well as for their added features. Further, it is respectfully submitted that it would not have been obvious to modify the washing machine 10 disclosed by Knoop in the manner suggested in the Office Action. Additionally, Gilbreath is merely cited as allegedly teaching a boss and a flange, and thus fails to overcome the deficiencies of Knoop. Accordingly, it is respectfully submitted that claims 6-8, 10, 16-18 and 20 are allowable, and thus these rejections should be withdrawn.

IV. New Claims 21-27

New claims 21-27 are added to the application. It is respectfully submitted that new claims 21-27 meet the requirements of 35 U.S.C. §112, and are allowable at least for the reasons

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set forth above with respect to independent claims 1 and 12, from which they respectively depend, as well as for their added features.

V. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned, **JOANNA K. MASON**, at the telephone number listed below.

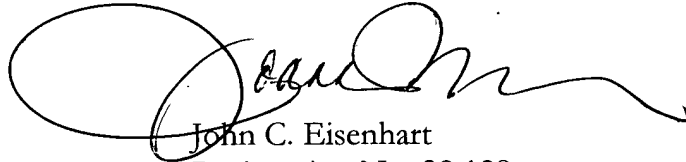
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

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concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and
please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP

A handwritten signature in black ink, appearing to read "John C. Eisenhart", written over a large, loopy circular flourish.

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FIG. 3

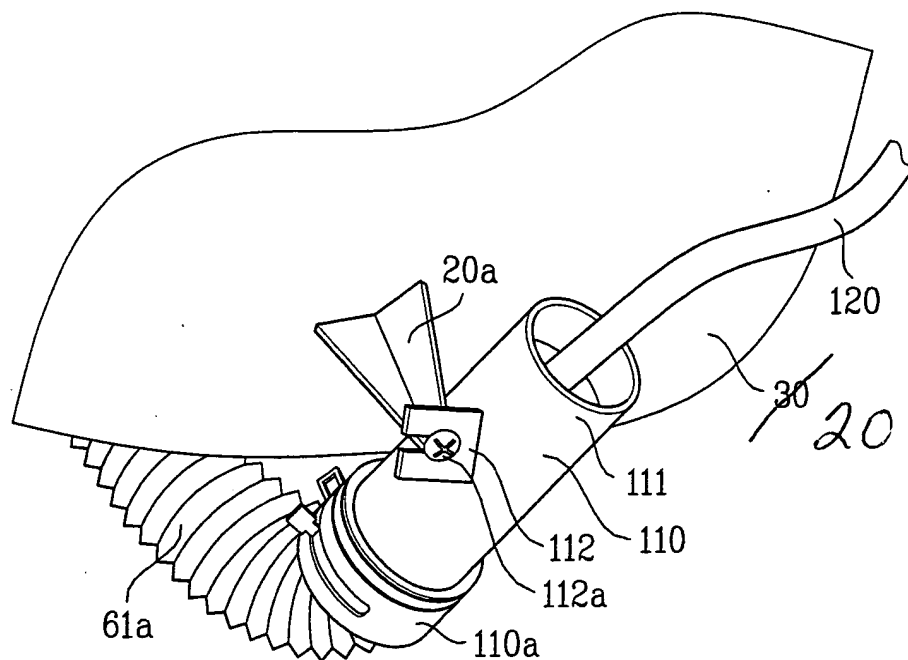
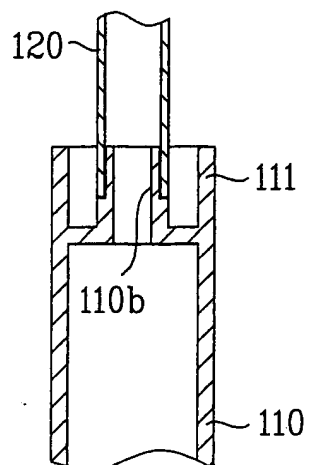


FIG. 4



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Amendments to the Drawings:

The attached drawing includes changes to Figure 3. This sheet, which includes Figures 3 and 4, replaces the original sheet including Figures 3 and 4. In Figure 3, previously labeled element number 30 has been replaced with element number 20. No new matter is added.

Attachment: Replacement Sheet (1)
Annotated Sheet Showing Changes (1)